

878.06. BASIS OF PAYMENT.

Accepted modular glare screen units, measured as provided above, will be paid for at the contract unit price as follows:

- (A) MODULAR GLARE SCREEN EACH
- (B) MODULAR GLARE SCREEN LINEAR FOOT (METER)
- (C) MODULAR GLARE SCREEN SIGN DAY

Such payment shall be full compensation for furnishing all materials, equipment, labor, and incidentals for the installation of the glare screen modules.

SECTION 880

CONSTRUCTION SIGNING AND TRAFFIC CONTROL

880.01. DESCRIPTION.

This work shall consist of furnishing and erecting signs, lights, barricades, and devices as shown on the Plans or as required by the Engineer or as proposed by the Contractor and approved by the Engineer.

880.02. MATERIALS .

- (a) **Construction Signing and Traffic Control Materials.** Materials for construction signing and traffic control shall meet the applicable requirements of NCHRP #350 crash requirements and these specifications as follows:

1. *Arrow Display.* The arrow display shall consist of the following components:

- (1) Sign panel with yellow colored sealed beam lamps attached, meeting the requirements of Section 6F-3 of the Manual on Uniform Traffic Control Devices.
- (2) Circuitry control unit.
- (3) Mounting frame.

Panel. The face of the panels which are exposed to oncoming traffic shall be a nonreflective black finish.

Circuitry control unit. The level of intensity of light displayed by the lamps shall be changed through means of the control unit for either high intensity for day or reduced intensity for night operations. All lamps shall display essentially the same intensity of light for a given intensity setting.

Larger panels may be substituted for smaller panels at the discretion of the Contractor, but smaller panels may not be substituted for larger panels.

Mounting frame. The sign panel shall be supported on a mounting frame such that when displayed to oncoming traffic the bottom edge of the panel shall be not less than 7 feet (2.1 m) above the roadway surface. Mount the arrow display so that the panel can be rotated on a horizontal axis to be hidden from the view of on-coming traffic when not in use. Mount all mobile arrow displays on pneumatic-tired vehicles.

The flashing lights shall be operated from a dependable power source, and shall have a separate auxiliary source of power immediately available. At least one power source on a mobile arrow display shall be a self-contained source, either battery or electric generator operated.

The arrow display shall contain a special circuitry control unit. The circuitry control unit shall be a solid state electronic unit with four modes which shall contain switching controls for operator selection as follows:

- (1) Pass Right: flashing arrow.
 - (2) Pass Left: flashing arrow.
 - (3) Pass Either Side: the outermost chevrons, one at either end of the panel with the apex of each chevron pointing toward the nearest panel edge.
 - (4) *Caution - four or more lamps, arranged in a pattern which will not indicate a direction.*
2. *Construction Signs and Barricades.* The supports and sign blanks may be either metal, wood, or plastic, the only requirement being satisfactory performance. Install all signs 10 square feet (1 square meter) and larger with two supporting legs. Retroreflectorize all signs and barricades whether for day or night use by means of wide angle flat top reflective sheeting meeting the specifications for Type II-A sheeting, unless otherwise specified on the plans.

Construct all sign messages and symbols in accordance with the Manual on Uniform Traffic Control Devices and the Oklahoma Department of Transportation Sign Detail Standards.

NOTE: Any construction sign not meeting retroreflectivity specification of Section 719.04 at any time during the life of a project shall be clearly marked and immediately replaced.

3. *Construction Signs.* 32.3 square feet (3.0 square meters) and Over. Construct signs 32.3 square feet (3.0 square meters) and over of extruded aluminum or galvanized steel. All signs in this item which are to be ground mounted shall be of a breakaway design and installed in accordance with the latest revision of the following standard drawings: GMS-1, FGS-1, FGS-2 and SPA-1. Installation locations shall be approved by the Engineer prior to construction. Due to the temporary nature of these signs, no reinforcing steel will be required in the sign footings. Installation of this item may also include placement on existing overhead sign structures and will be shown on the Plans.

Retroreflectorize all signs in this item in accordance with current specifications. Sign color and specific design shall be as shown on the Plans.

4. *Vertical Panels.* Vertical Panels shall meet the requirements of Section 6F-5 of the Manual on Uniform Traffic Control Devices. Type II-A reflectorized sheeting shall be on both sides of each vertical panel.
5. *Warning Lights.* Warning lights shall meet the requirements of Section 6F-7OF of the Manual on Uniform Traffic Control Devices.
6. *Cones.* Cones shall conform to the requirements of Section 6F-5 of the Manual on Uniform Traffic Control Devices.

7. *Surveillance of Traffic Control.* Under the Surveillance of Traffic Control pay item, provide a person at the construction site 24 hours a day, seven days a week, to maintain and keep all traffic control devices in position any time traffic is directed away from the normal traffic lanes or anytime the Engineer deems it necessary.
 8. *Traffic Surveillance, Police.* The price bid for this item shall include the following:
 - Two officially marked Oklahoma Highway Patrol Cars.
 - Two law enforcement officers with jurisdictional authority to write and issue traffic citations.
 - The law enforcement officers will be insured, licensed, and bonded by their employer, and specifically approved and assigned to this work activity.
 - Make all the necessary arrangements with the law enforcement agency to provide the required law enforcement on this project. These arrangements should be made through the Chief's office, Oklahoma Highway Patrol at (405) 425-2424.

NOTE: Duty hours for these officers and vehicles will be the same as the Contractor's working hours on this project.
 9. *Flagger.* Included in this item is the cost of providing two flaggers for a twenty-four-hour period. Also included is the cost of providing any lighting needed to adequately illuminate the flagger stations at night. Care shall be taken so that the lighting does not cause visibility problems (blinding) for passing vehicles. This item will only be used when flaggers are required during nonworking hours.
 10. *Drums.* Drums used for traffic warning or channelization shall be constructed of lightweight, flexible, and deformable materials and be a minimum of 36 inches (900 mm) in height; and have at least an 18 inches (450 mm) minimum width, regardless of orientation.

NOTE: Steel drums shall not be used. The markings on drums shall be horizontal circumferential, alternating orange and white Type III reflective stripes 4 inch (100 mm) to 6 inch (150 mm) wide. Each drum shall have a minimum of two orange and two white stripes not more than 2 inches (50 mm) wide. Drums shall have closed tops that will not allow collection of roadwork or other debris.
 11. *Tube channelizers.* Tube channelizers shall be predominantly orange, not less than 27 inches (700 mm) high, a minimum 2 inches (50mm) wide when facing traffic, and made of a material that can be struck without damaging impacting vehicles. For nighttime use, tube channelizers shall have a minimum retroreflectivity of Type III sheeting. Provide retroreflection of tube channelizers by two 3 inches (75 mm) wide white bands placed a maximum of 2 inches (50 mm) from the top, with a maximum of 6 inches (150 mm) between the bands.
- (b) **Sampling and Testing.** A type D certification shall be furnished in accordance with subsection 106.04.

880.04. CONSTRUCTION METHODS.

Place signs, lights, and barricades on either portable or fixed supports as project requirements dictate.

Traffic control devices shall meet the requirements of the current Manual on Uniform Traffic Control Devices, published by the U.S. Department of Transportation, as pertains to shape, size, color, mounting height and placement.

When, in the opinion of the Engineer, any sign or other device which has been damaged needs cleaning, or has deteriorated to the extent it is no longer effective, it shall be cleaned or replaced immediately as required.

Conduct night time reviews of traffic control devices in coordination with the Department personnel at the beginning of the project, in conjunction with major changes to traffic signing, and at monthly intervals. Record the date and result of the night-time inspection in the contractor signing log.

880.05. METHOD OF MEASUREMENT.

If specified on the plans, *construction traffic control* may be paid for as a lump sum pay item. When the plans specify lump sum payment for construction traffic control, construction signing will be installed in a manner approved by the Engineer and in accordance with Chapter VI of the Manual on Uniform Traffic Control Devices, latest edition, and applicable O.D.O.T. standard drawings. Price bid for this item shall be payment in full for the installation and subsequent removal of all necessary construction traffic control required for completion of the project.

When *construction traffic control* devices are itemized pay items on the plans, each sign, barricade, light, drum, arrow display, or other traffic control device will be measured by the unit, complete in place, each calendar day the device is required and is in place in an acceptable condition and position to meet all of the above requirements. Measurement for payment will begin on the day that signs and other devices are in place for traffic control and direction.

Furnish a log of the signing and other traffic control devices and update this log throughout the life of the project to confirm the addition or deletion of individual traffic control items. Prior to each pay period, physically count the traffic control devices to substantiate the log.

Monitor the traffic control devices to evaluate their physical condition. When signs and devices are not needed for traffic control, they will not be measured, even though left in place. No unnecessary traffic control devices shall be left in place more than 5 days unless covered in a manner approved by the Engineer. There shall be a deduction in payment of one sign day for each day after the first 5 days that a traffic control device is left in place and not covered. Unnecessary traffic control devices that remain in place for more than 30 days shall become the property of the Department. This includes any time before, during, or after construction of the project. During nonworking periods—such as holidays, Sunday, etc.—the log of signs in place and measured for payment on the day preceding and on the day following such down time will be used to determine the signs to be paid for. When it is necessary to move an item from one location to another, it will be measured for payment only one time on the day of movement.

The necessary flags, flagman signs and jackets, posts, traffic cones, and other incidental items included in a detour or other traffic control system or installation, as shown on the Plans or as required

by the Engineer, will not be measured for payment, but their costs shall be included in the price of other bid items.

Signs and other traffic control devices will not be measured for payment during any time the Contractor is being charged for liquidated damages. This in no way relieves the Contractor from responsibility for providing signing on the project or maintaining the required log until it has been completed and accepted. Such signing will be at the Contractor's expense.

During any period that contract time is suspended in accordance with Subsection 108.07, any traffic control devices required for the safety of the motoring public will continue to be measured and paid for.

Quantities included in the Plans for traffic control items are estimated quantities based upon a given sequence of construction and schedule of work and should not be considered as definite quantities for final payment. The quantities computed for final payment will be based on daily measurements recorded and approved by the Engineer.

880.06. BASIS OF PAYMENT.

Signs and other traffic control devices, measured as provided above, will be paid for at the contract unit price as follows:

(A)	ARROW DISPLAY	SIGN DAY
(B)	CONSTRUCTION SIGNS.	SIGN DAY
(C)	CONSTRUCTION BARRICADES	SIGN DAY
(D)	VERTICAL PANELS	SIGN DAY
(E)	WARNING LIGHTS	SIGN DAY
(F)	DRUMS	SIGN DAY
(G)	TUBE CHANNELIZERS	SIGN DAY
(H)	CONES	SIGN DAY
(I)	FLAGGER	SIGN DAY
(J)	CONSTRUCTION TRAFFIC CONTROL	LUMP SUM
(K)	SURVEILLANCE OF TRAFFIC CONTROL	SIGN DAY
(L)	TRAFFIC SURVEILLANCE, POLICE	HOURLY

Such payment shall be full compensation for furnishing all materials, equipment, labor, and incidentals to complete the work as specified. Unless otherwise designated on the Plans or special provisions, all traffic control devices under this item will remain the property of the Contractor upon completion of the project.